TruVision SVR System User Manual

P/N 1072701A-EN • REV 1.0 • ISS 15OCT13

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Certification CE N4131

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Chapter 1
TruVision SVR Overview

TruVision SVR System User Guide Overview

The TruVision Software Video Recorder (SVR) System User Manual discusses the general capabilities and technical specifications of the TruVision SVR system. This document also discusses the related configuration requirements for the TruVision Navigator software.

TruVision SVR Overview

TruVision SVR is the software-based recorder platform for the TruVision product family, giving the flexibility of commercial-off-the-shelf server support for scalable video recording needs.

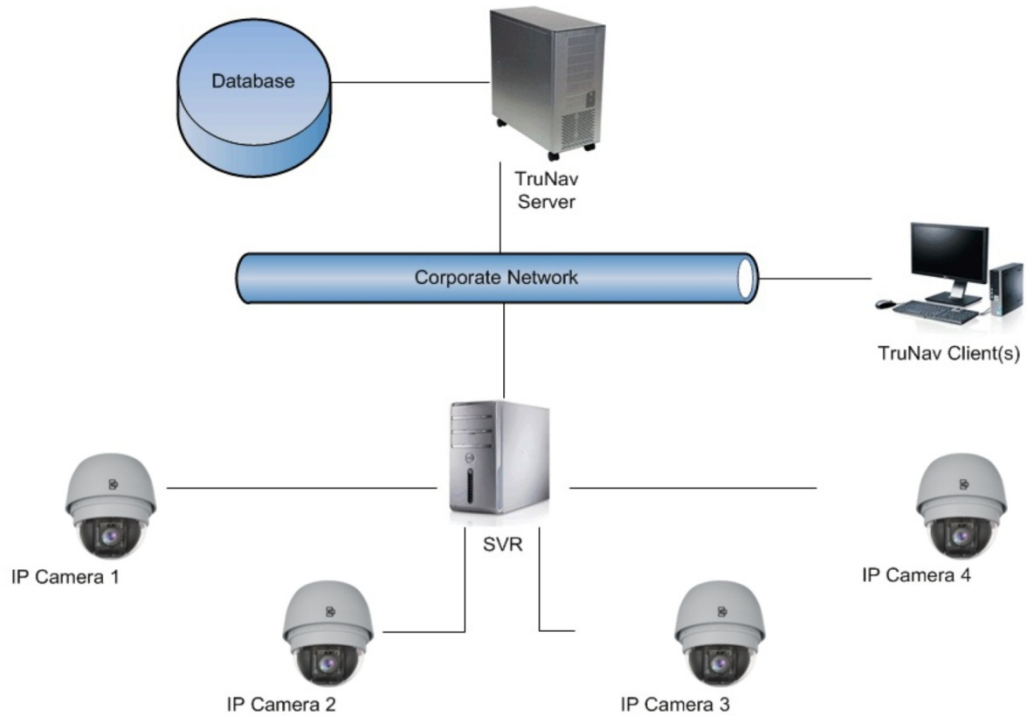
TruVision Navigator is the interface used to view and manage the data recorded in the TruVision SVR system. TruVision Navigator v5.0 or a later version is required to manage TruVision SVR. Data can be accessed and viewed over a LAN or the Internet. Through remote viewing and management of third-party cameras, TruVision SVR expands the flexibility of corporate security systems.

TruVision SVR, utilizing the technology of IP-addressable cameras, allows system operators to access and program their cameras from anywhere in the world. These network digital video cameras are designed specifically for remote monitoring and management applications such as security and e-surveillance.

All IP cameras must have their IP addresses configured according to their respective user guide(s). The IP addresses may also be entered when configuring the camera in the TruVision Navigator management software.

Once SVR is installed on a system and the system is in production, it is recommended that security on these servers should be locked down by the system administrator so that only users with valid Windows domain accounts have access to video. With the introduction of the browser-based applications, the ability to access video servers is made much easier using Microsoft domain authentication. It is highly recommended to deny access to these servers for a secure deployment.

Figure 1: TruVision SVR Configuration



Storage Space Reservation

TruVision SVR content is stored in separate tracks that contain information on the index, video status, and events.

TruVision SVR always keeps a certain amount of disk space reserved to be in accordance with Microsoft's drive guidelines. Ten percent of the overall disk space is reserved for these guideline requirements and an additional ten percent is reserved for event storage. In total, twenty percent of the hard disk space is already in use and cannot be used freely.

Because TruVision SVR content is stored in separate files if even one of those files is deleted or corrupted video may become inaccessible. For instance, if the index track no longer exists you may not be able to use video tracking. It is advisable to follow basic backup and security measures to make sure your data is protected against hardware and network failures.

If your video becomes inaccessible, contact the Interlogix Technical Support Group to assist you with data recovery.

Digital Video Prerequisites

Time Synchronization

For digital video system to work properly, time must be synchronized on all computers. Third-party tools are available to synchronize times across multiple time zones. If no NTP source is available, TruVision Navigator server can be used as the NTP server.

Anti-Virus Software

If this type of software is required (due to corporate policy, for instance), then you must adhere to the following guidelines:

- For Real-Time protection, you must exclude all files with the extensions .SPFS, .INFO, .LVI, .LEI, and .LNR.
- For Real-Time protection and virus scan, you must exclude the data drives.

Windows Updates

When running Windows updates, be aware that they require a full shut down of your computer. Make sure that these updates are scheduled to run when either recording will not be necessary or when backup or fail over systems are properly configured and running.

Storage File Purging

If the system runs out of hard disk space while the system's cameras are configured for storage capacity, the oldest video files are deleted regardless of what camera they are on. In addition to video files, TruVision SVR content is stored in separate tracks that contain information on the index, video status, and events.

This can lead to potentially problems if not accounted for. For example, consider a case where the retention policy is set to five days for all channels, except for one channel which is configured for a 30-day retention policy. The reclamation logic will reclaim files for the channel with 30 day retention that are 6-30 days old before reclaiming files from any other channel. This would significantly affect the amount of video that would be stored for the 30 day retention channel.

Chapter 2
TruVision SVR Network Configurations

It is very important that all computers on the TruVision SVR Network are on the same domain or trusted domain. If they are not, the TruVision SVR will not function properly.

Network Configuration

The following firewall and permission information needs to be configured correctly for the TruVision SVR to work correctly.

Windows Firewall

By default, the Windows firewall is enabled. The system administrator must determine whether firewall services are used on their system. If the firewall is enabled, it will prevent the security management system software from functioning properly until certain things are added to the exception list, which defines which components and ports should not be blocked by the firewall. If the firewall is enabled during installation of the security management system software, the exception list will be automatically populated.

IMPORTANT: Since certain elements are added to the exception list, it is mandatory that the **Don't Allow Exceptions** check box on the General tab of the Windows Firewall dialog is not selected.

Windows Firewall Settings

Exception List:

- TruVision SVR services:
- LnrCapSvcu
- LnrRetrSvcu
- LnrRTPServer

- LpsSearchSvc
- RPC Port (TCP/IP 135)
- RTP Port (TCP/IP 554)
- UDP Port (5000)

ICMP Settings:

- Allow incoming echo requests

Windows Authentication Model

The process used by Windows to verify a client's identity is called authentication. In order to properly set up a system or troubleshoot an existing installation, the first step is to determine the identity of the client attempting to connect to the server.

Here are some general guidelines:

- Interactive processes always run with the identity of the user that launched them, or they can be launched with credentials of a different user through the "runas" command.
- Services typically run under the SYSTEM account (or another account specified through Windows Services).

When a client connects to a remote server, the client's identity is sent to that machine, and that system authenticates the client. This process can have several outcomes depending on which user account is used by the client:

- If both machines are in a domain and the domain user is used, then the server will use the domain controller to authenticate the incoming client connection.
- If the client used the local machine account and the same local account with the same password exists on the server, then that account will be used.

  Note: If the same local account exists on the server, but the password is different, the client's connection attempt will immediately return failure. It will not default to the method described next.
- If the client used the local machine account and an account with that name is unknown to the server, an incoming connection will be assigned the ANONYMOUS user on the remote machine.

  Note: There is a security policy which allows ANONYMOUS users to be part of the EVERYONE group, but by default the EVERYONE group only includes users whose identity was established in some way (i.e., not anonymous).

Local vs. Remote Permissions

Extended Windows security model, introduced in Windows XP SP2 and Windows 2003 Server SP1, split permissions listed in the previous section into two

separate parts: local and remote. This allows system administrators more granular control over object security.

As the client-server connection is analyzed, the location of the components will determine which permissions (launch, activation, and access) will be used. If both components are running on the same machine, local permissions will be used. Otherwise, Windows will use remote permissions.

DCOM Configuration

The DCOM settings must be the same on all computers connected to the TruVision SVR. Be sure to close all security management system applications that may be connected to the recorder.

1. In Windows, from the Start menu select Run
2. Type `dcomcnfg` and click [OK].
3. Access the Distributed COM Configuration Properties by navigating to **Component Services > Computers > My Computer**.
4. Right-click on My Computer and select **Properties**.
5. On the Default Properties tab, make sure it is configured as follows:
   - Select the **Enable Distributed COM on this computer** check box.
   - Clear the **Enable COM Internet Services on this computer** check box.
   - **Default Impersonation Level** should be set to “Impersonate.”
   - Clear the **Provide additional security for reference tracking** check box.
6. On the Default Protocols tab, use the buttons to order the list in the exact order shown below:
   - Connection-oriented TCP/IP
   - Datagram UDP/IP
   - Tunneling TCP/IP
   - Connection-oriented SPX
7. Click [OK].
8. If changes were made, restart the recorder.
9. Verify that the object exporter error does not appear. If the error still occurs, repeat this procedure, but in step 6, remove the Tunneling TCP/IP protocol from the list of default protocols.

Chapter 3
TruVision SVR Installation

TruVision Software Video Recorder

The TruVision SVR is a network recorder designed to store video obtained from IP cameras. When configuring the IP cameras, be sure to configure the correct IP address in the client software.

Two network cards may be installed on the TruVision SVR system. When using a second network card to connect to a network independent from that of the host system, the second network must have a different subnet.

TruVision SVR Firmware

In order for the recorder to work, the correct version of firmware must be installed on the machine. Before installing the TruVision SVR firmware, DirectX should already be installed. If not, the TruVision SVR setup will stop so that you can install DirectX.

System Hardware Requirements

Component	Minimum	Recommended	High
Notes	Below configuration is tested to support 32 IP cameras recording at 4CIF resolution with 30fps, 50% compression, and motion detection enabled. (82% CPUUtilization)	Below configuration is tested to support 32 IP cameras recording at 4CIF resolution with 30fps, 50% compression, and motion detection enabled. (56% CPU Utilization)	Below configuration is tested to support 64 IP cameras recording at 4CIF resolution with 30fps, 50% compression, and motion detection enabled. (68% CPU Utilization)
Processor	Intel Core I5-2400 3.10GHZ 6MB L3 Cache Quad Core Processor	Xeon X3450 2.66GHz 8MB Cache 2.5 GT/s Quad Core Processor	Dual Xeon E5620 2.26GHz 5.86 GT/s Quad Core Processors
Memory	4GB DDR31333MHz NECC UDIMMs	4GB DDR3 1333MHz NECC SDRAM	6GB DDR31333MHz NECC SDRAM

Component	Minimum	Recommended	High
Hard Drive (OS)	250GB - 7200RPM, SATA 3.0Gb/s, 16MB Cache	500GB5 - 7200RPM, SATA 3.0Gb/s, 16MB Cache	500GB5 - 7200RPM, SATA 3.0Gb/s, 16MB Cache
Network	Integrated PCIE 10/100/1000	Integrated PCIE 10/100/1000	Integrated PCIE 10/100/1000

Supported Operating Systems

- Windows Server 2003 SP2 Standard and Enterprise
- Windows Server 2003 R2 with SP2 Standard and Enterprise
- Windows Server 2008 SP2 32-bit
- Windows Server 2008 SP2 64-bit
- Windows Server 2008 R2 with SP1 Standard and Enterprise
- Windows 7 SP1 32-bit
- Windows 7 SP1 64-bit

TruVision SVR Configuration

1. Download the TruVision SVR installation package and run the setup.exe program on the system SVR is intended to work on.

   Note: It is strongly recommended that TruVision SVR and TruVision Navigator are installed on separate machines.

2. Click [Install] to install the prerequisites and once it is completed, click [Next].
3. Read the license agreement. If you agree, select the appropriate radio button. Click [Next].
4. Select the destination folders and click [Install].

   TruVision Software Video Recorder log files are stored at the following location for Windows 7: `C:\ProgramData\UTC Fire & Security\TruVision SVR\logs`

   Click [Next].

5. After the installation is complete, the SVR Management Console is displayed. This dialog is used to configure the location of data for the network recorder.

   a. Under **Available locations**, all local harddrives and mapped network drives are listed. Select a drive and click the arrow key to move the selection to the other column (**Selected Locations**).

      - If you are using network drives, it is recommended that a user account be created to access those network drives.
      - Mapped drives appear in the **Available locations** list, but will not function properly and should not be used.

- To specify a universal naming convention path name, click <**Other Location**>. You will then be presented with the option to type in the path or browse for the location.
- The following are supported:

  iSCSI: Internet SCSI (Small Computer System Interface), an IP-based storage networking standard for linking data storage facilities. Because of the ubiquity of IP networks, iSCSI can be used to transmit data over LAN, WAN, or the Internet and can enable location-independent data storage and retrieval.

  SAN: (Storage Area Network). A high-speed special-purpose network (or subnetwork) that interconnects different kinds of data storage devices with associated data servers on behalf of a larger network of users.

  NAS: (Network-Attached Storage). A hard disk storage that is set up with its own network address rather than being attached to the department computer that is serving applications to a network's workstation users.

  IMPORTANT: When recording to NAS, keep in mind that failures may occur due to lack of bandwidth, or poor harddrive performance (for example, if several TruVision SVRs are writing to the same drive location or same shared folder).

  Each recorder requires its own dedicated space for storage.

b. Specify the name of the folder where the data is to be stored. If the name of the folder specified does not already exist, it will be created.

c. Enter the amount of free space (in MB) to be maintained on each drive. If this field is left blank, no free space will be maintained. The network recorder will always continue to record by deleting the oldest video files if drive space becomes depleted.

Note: It is recommended to leave 10% of each storage drive free. Lower values may negatively affect the performance of the recorder.

d. Click [Next].

6. The Security tab is used to display the current security settings applied, as well as the required actions that need to be applied on the machine in order for SVR to operate successfully. Click [Apply] to apply required Storage and Security settings.
7. The Results tab will display the status of the actions applied in previous steps.
8. Once you are finished installing the network video recorder, click [Finish]. If you wish to make changes to these settings, you may do so at a later time from directory `C:\Program Files\UTC Fire & Security\TruVision SVR\SVR Management Console` for a 32 bit system, or, `C:\Program Files(x86)\UTC Fire & Security\TruVision SVR\SVR Management Console` for a 64 bit system.

Adding TruVision SVR to TruVision Navigator

After the installation is completed, TruVision SVR needs to be added to the TruVision Navigator device tree. To add an SVR to the Navigator, follow these steps:

1. Click [Add Device] button and Select [Add Manually].

   Note: Embedded discovery tool in Navigator does not support discovery of SVR.

2. Select [SVR] from the drop down menu for the Device Type.
3. Enter desired name for the [Device Title].
4. Enter [IP Address] of the TruVision SVR server.
5. Enter 554, or any other port, for [Device Port]. (Ports other than 554 need to be set on the SVR system as well.)
6. Click [Ok].
7. Click [Yes] and follow the instructions to install SVR Client Components.

   Note: To connect to the SVR for the first time, each TruVision client needs to install the SVR Client Components.

   Note: With each TruVision Navigator client upgrade, SVR Client components must also be updated. Before removing existing SVR Client components from the client machine, make sure all the SVRs are deleted from the device tree. It is recommended to export the address book so it becomes easier to import the devices back to the Navigator after installing the new SVR client components.

   Note: TruVision SVR must be activated via TruVision Navigator with the appropriate licenses within the first 30 days trial period. The SVR and the cameras recording to it will not be accessible after the trial period until the TruVision Navigator server is updated with the appropriate type and amount of licenses.

Licenses

TruVision Navigator has a licensing interface embedded in the help screen. The licensing link will display the Licensed Features window for managing the TruVision SVR recorder base and camera licenses. The Update license button will provide the license management screen where a user can change the required licenses and add more licenses via a new license key purchased from Interlogix.

TruVision SVR Licenses are obtained from Interlogix customer service. There are three types of TruVision SVR licenses available:

- **TruVision SVR Base License (TVS-BASE)**: Required for each TruVision SVR recorder
- **TruVision SVR 3rd party Camera License (TVS-CAM)**: Required for each individual 3rd party camera
- **TruVision SVR Interlogix Camera License (TVS-CAM-ILX)**: Required for each individual ILX camera

Obtain Licenses

To obtain licenses, follow these steps:

1. Click [Help] on the tasks toolbar of TruVision Navigator.
2. Click [Licensing] to see the licensed features.
3. Click [Update License]. A new window will appear.
4. Enter the number of licenses needed for each SVR server, 3rd party cameras, and Interlogix cameras to the related fields.

   As these quantities are entered, the “Customer Key” will be updated automatically. A “Customer Key” is a combination of Unique TruVision Server ID, number of SVRs installed to the TruVision Server, and number of Interlogix and third part party cameras installed to the system.
5. Use the “Customer Key” on the screen to place the order for purchasing a license key from the Interlogix channel partner.

   Note: “Customer Key” will be used as a reference when Interlogix customer service generates your license key.
6. A license key will be e-mailed to the address provided.
7. Enter the key received in the **License Key** field, and click [OK].
8. All SVR servers and IP cameras in the system will be activated after following previous steps.

   Note: Interlogix cameras, third party cameras, and SVR physical servers can be swapped by a comparable product as long as the number of licensed devices in TruVision Navigator Server is not exceeded. Applied licenses create a pool of device groups (SVR recorders, Interlogix cameras, and third party cameras) that are supported by that TruVision Navigator Server. Licenses can only be entered and applied on TruVision Navigator Server machine. TruVision Navigator Clients pull the available licensed device information from the TruVision Navigator Server.

TruVision SVR Live Video Setup

The TruVision SVR Live Video Setup is a tool installed with the TruVision SVR Installer. It can be used to enable and configure multicast protocol and limit port ranges.

On the recorder, run the TruVision SVR Live Video Setup tool (LnrNI.exe) from `c:\Program Files\Common Files\Lenel Shared\LNVSuite Client`

`Components\7.0\LnrNI.exe`. If there is more than one network interface, select the interface you would like to use for sending multicast. Run the TruVision SVR Live Video Setup tool on each client workstation using monitoring software to see live video.

1. Select the **Use Multicast** checkbox.
2. If more than one network interface is detected, select the interface to be used for receiving live video.
3. If there is a firewall between the recorders and the client, certain ports must be open for Multicast/UDP. Select the **Use ports** checkbox. Type in the ports to be opened on the firewall.

   IMPORTANT: On routers, IP Multicast must also be enabled. Refer to the manufacturer to enable IP Multicast. This may require a firmware upgrade.

   IMPORTANT: Firewalls between the TruVision SVR and its clients usually block both UDP/ IP and IP Multicast traffic. This traffic is one-directional communication, so if there are firewalls, they must have traffic enabled going from the TruVision SVR to the clients. If the firewall cannot be configured to enable UDP/IP traffic on all ports, then specify a range of ports to be opened. The number of live video streams on the client is limited by the number of open ports.

   Note: Some network devices such as routers and switches may broadcast it to all devices instead of delivering data only to subscribed clients. Slow (10 Mbps) devices cannot handle the traffic. It may be possible to resolve these issues by using 100 Mbps or higher devices.

The following tabs allow you to limit the port range that are used for the sections specified:

- Client Network Settings
- Recorder Network settings
- IVS Network Settings
- Remote Monitor Network Settings
- RTP Client settings

Uninstall TruVision SVR Firmware

1. Remove the TruVision Software Video Recorder from the computer.
2. Delete the following folders from the computer:
   - C:\Program Files\TruVision SVR
   - C:\Program Files (x86)\UTC Fire & Security\TruVision SVR (for 64 bit OS)
   - C:\ProgramData\UTC Fire & Security\TruVision SVR for Windows Vista or later

   IMPORTANT: Modifying the registry could cause irreversible damage to your Windows operating system; be sure to back up the registry before

making any changes. Follow the instructions located at: http://support.microsoft.com/kb/322756.

3. Open the Registry Editor and delete the following entries:
   - hkey_local_machine\software\Lenel
   - hkey_local_machine\software\microsoft\MSSQLService
   - hkey_current_user\software\Lenel

   Note: Some keys may not be installed, depending on the version of TruVision SVR firmware.
4. Restart the computer.

TruVision SVR Unattended Upgrade

TruVision SVR is a Windows Installer-based setup package capable of running upgrade installations in reduced user interface modes to support various industry standard deployment technologies, such as SMS or Active Directory. This section provides specific requirements for deploying the TruVision SVR via unattended or silent methods.

Deploying Prerequisites

There are several third-party prerequisites that are required prior to the TruVision SVR upgrade. These applications are installed during the standard user-driven installation; however when running the installation in reduced user interface modes these prerequisite requirements must be met prior to the TruVision SVR installation. These applications can be found on the TruVision SVR disc and deployed individually using your preferred unattended technology.

Third-party Prerequisites

Application	TruVision SVR Disc Location	Recommended Commands
Microsoft .NET4.0 Runtime	.\ISSetupPrerequisites\{074EE22F-2485-4FED-83D1-AAC36C3D9ED0}\dotnetfx35.exe	/v /q /norestart
Microsoft XML Parser 6.0	.\ISSetupPrerequisites\{726F97A8-63B9-4A58-ACFB-B8A56B383740}\msxml6_x86.msi	/qn
Microsoft C++ 8.0 Runtime	.\Temp\VCPP9Runtime\vcredist_x86.exe	/q
Microsoft C++ 9.0 Runtime	.\Temp\VCPP8Runtime\vcredist_x86.exe	/q
Intel Performance Primitives 5.2	.\Temp\INTEL\w_ipp_rti_ia32_p_5.2.msi	/q

Deploying the TruVision SVR

The TruVision SVR is a standard Windows Installer-based package capable of low user interface mode switches for unattended deployment, such as /qr. The installer package requires some user input from a configuration file and a command flag.

Configuration settings used in an unattended upgrade are stored in the **lnrsetup.ini** file located in the Unattended Installation folder on the TruVision SVR disc. This file contains instructions for the various available configuration settings. The file must be modified for your specific system needs prior to deploying the TruVision SVR via unattended mode. Once the file has been updated, it can be stored on a disc or network location so that it can be passed to the setup during the unattended installation.

It is recommended to use the /qr parameter to run the installation package in quiet reduced mode via your chosen deployment technology. The UNATTEND flag must also be used to specify the fully qualified path of the **lnrsetup.ini** file.

The following is an example call to the Windows Installer engine (msiexec) which runs the install command (/i) on the TruVision SVR setup package. In this example, the package will be run in reduced quiet reduced mode (/qr) and the UNATTEND parameter specifies the full path to the location of the **lnrsetup.ini** file. The package and settings are hosted on an accessible Web server so that they always have the same relative access path when they are deployed.

```
"C:\Windows\system32\msiexec.exe /i
"\\MyNetworkServer\Lenel Network Video Suite.msi" /qr
UNATTEND=""\\MyNetworkServer\MyLNVRSettingsFile\lnrsetup.in
i"
```

After the upgrade is complete, reboot the TruVision SVR and verify that it has returned online in monitoring software.

PTZ Control

Refer to your specific camera user guide to see its specific PTZ Control capabilities. To see specific camera capabilities, please refer to www.interlogix.com.

PTZ Connections

PTZ devices without a built-in IP device require a serial connection to an IP camera or video server (via RS-232, RS-485, or RS-422 standard). For more information, refer to the manufacturer’s documentation.

PTZ Device Configuration

PTZ devices with built-in IP cameras do not require special configuration. For all other cases, use the IP device's web interface to configure the appropriate settings for the driver and COM port (baud rate, data bits, stop bits, parity bits).

Chapter 4
TruVision SVR Capabilities

The following chapter discusses features and capabilities of a TruVision SVR system.

TruVision Navigator support

TruVision SVR is supported by TruVision Navigator 5.0 and later releases. Refer to the TruVision Navigator User Manual for more information on specific functions described.

Configurations Menu and Capabilities

Health Diagnostics

TruVision SVR is able to provide health diagnostics information via TruVision Navigator. To obtain this information, right-click on the SVR in the TruVision Navigator device tree, and select “Health Diagnostics.” This information is also summarized in export enabled device report. The following information can be obtained with this report:

- Network information: IP address.
- System Information: SVR firmware version, recorder date & time, live connection limits, playback connection limits.
- System Health: Device status.
- Recording: Recording disk location, recording capacity left, recording capacity protected, recording retention period.

Camera Configuration

TruVision SVR is able to configure cameras via the device configuration window in TruVision Navigator interface. To do this: right-click on SVR and select [Configure Device].

Various settings can be applied to the camera including picture settings, camera settings, event management, and audio input settings.

Camera status can be checked and updated with [Get Camera Status] button in this menu.

Motion Detection (AI)

TruVision SVR is able to detect moving objects or people within the camera's field of view. Motion detection can be customized to:

- Detect motion in only certain regions of the camera's view.
- Configure the movement threshold that must be met in order to generate an alarm.

Note: Since the Motion Detection Grid of the SVR in the configuration window is a function of the SVR itself, a grid set in the SVR configuration will not be reflected in the camera's own motion detection settings.

Configure Motion Detection

To setup motion detection in the Navigator interface, please follow these steps:

1. In the Services menu, click [Start] to begin the notification processor.
2. Right-click on the IP camera and select "Configure Camera."
3. On the Video sub-tab, enable the **Motion Detection** check box.
4. Click [Grid button]. The Motion Grid Setup window opens.
5. Right-click on the image and select "Select All." Or click and hold the left mouse to select the specific area(s).
6. Select a schedule.
7. Select "Normal" for recording.
8. Select "On" for Alarm.
9. Select a sensitivity level between 0-100.
10. Click [OK] to save. Once these steps are completed, the bell icon should turn to red with motion events.

Note: It may take a couple minutes for changes to take effect. Refresh the alarm list until the first alarms are populated.

Camera Tampering

TruVision SVR is able to detect when the camera cannot view an area due to a tampering activity. An alarm is generated if the camera cannot focus on the scenery within the camera's field of view but does detect a solid color image.

This is used primarily to alert monitoring stations that a camera has been compromised by being covered.

Brightness Change

TruVision SVR is able to detect lighting changes within the camera's field of view. If the lighting changes from bright to dark or vice-versa an alarm is generated.

Recording Configuration

TruVision SVR also configures the recording settings of the cameras via the device configuration window in TruVision Navigator interface.

Right-click on SVR and select [Configure Device] and select [Recording] tab.

Various settings including recording mode, event recording mode, and compression settings can be applied to the camera with this interface. For more information, refer to Chapter 5 "Cameras" on page 22.

Event recording

Event recording allows a camera to be configured for a higher frame rate when an event is generated. The camera can also be configured for pre-roll or post roll on an event so that video is recorded at the higher frame rate a few seconds before and after the event occurs. After the event restores and any amount of post roll recording has passed, the camera returns to the normal recording mode that was set prior to the event.

Event recording is fully supported for MJPEG and MPEG4, but with H.264 the event recording frame rate has to be set to the normal recording frame rate. MPEG-4 can also record I-frames on non-event and then record at the normal frame rate when an event occurs.

Notifications

TruVision SVR configures notifications for specific events such as Network usage, CPU usage, and Disk Busy status with appropriate thresholds. To do this: right-click on SVR and select [Configure Device] and select the [Notifications] tab.

Various storage notifications can be set up in this menu.

To set up a retention period, select "Automatically delete video older than date" and enter the desired number in the Days field.

System Settings

TruVision SVR provides and configures key system settings such as basic system information, recording capacity parameters, and storage statistics. Right-click on SVR and select [Configure Device] and select [System] tab.

Limits can be set for live clients and recorder clients from this interface.

Schedules

TruVision SVR can record based on schedules. To set the schedules, right-click on SVR and select [Configure Device]. Schedule options are on the System tab. Default schedules in TruVision SVR are:

- **Never** - disables scheduled recording.
- **Always** - enables 24/7 continuous or event based recording based on the recording mode selected.

Network storage

A TruVision SVR can be set to record video to a network storage location which the TruVision SVR will treat as another local storage drive. To select a network attached storage (NAS) for recording, launch the SVR Management Console from the Windows Start menu. In the SVR Management Console, select the storage tab to make the changes.

A full list of features is provided in the Device Feature Matrix chart located on the TruVision Navigator webpage at www.interlogix.com.

Chapter 5
Cameras

For a list of currently supported cameras, visit: www.interlogix.com/video.

Supported Camera Functionality

The following list of settings can generally be configured on the cameras currently supported by TruVision SVR. However, not all cameras listed support all listed functionality.

Audio

Specifies whether Audio is implemented on this camera (Audio incoming from the camera to the recorder). Selecting “Yes” denotes that Audio is supported and is recorded on the TruVision SVR.

Audio Source Types

Allows the user to select the audio source type. The audio source type is based on the individual camera. Refer to the camera manufacturer’s user guide for information about available audio source types. Source types can typically be “line” or “microphone”.

Audio Volume

Allows for volume control of the camera’s incoming audio.

Backlight Compensation

Allows the user to adjust the camera’s backlight compensation.

Brightness

Allows the user to adjust the camera’s image Brightness.

Camera Motion Detection

Specifies whether the camera supports Camera Motion Detection and if it's used as part of the schedule.

Change Password Capability

Specifies whether the user can change the password on the camera via the software.

Contrast

Allows the user to adjust the camera's image contrast.

Exposure

Allows the user to adjust the camera's image exposure or the amount of time light is allowed to pass through the camera lens.

Firmware

Indicates the firmware of the camera that this version of TruVision SVR is tested and supported with.

Frame Rates

Indicates the available frame rates (frames per second) allowed to be specified in the software for that camera.

Gamma

Allows the user to adjust the gamma of the camera output.

H.264

Specifies whether this camera supports the H.264 standard.

Hue

Allows the user to adjust the camera's image Hue.

IO Inputs

Shows the number of inputs, if any, that can be configured for that camera type.

IO Outputs

Shows the number of outputs, if any, that can be configured for that camera type.

MPEG4

Allows the user to put the camera in MPEG4 mode, which records video using MPEG4 standards.

Multiple Video Inputs

Specifies whether the camera is a multiple video input camera (typical a 4 channel encoder).

Name

Specifies the name of the camera as given by the user.

PTZ

Allows the camera to be controlled via pan, tilt zoom functionality of the video viewing software.

Quality

Allows the user to adjust the camera’s image quality.

Recording on Camera

Allows the user to configure recording to the internal storage of a camera if supported by the camera.

Resolutions

Specifies the available resolutions supported for this particular camera type. The resolution may change based on the standard used and the codec.

Rotation

Allows the user to rotate the camera at 90 degree intervals.

Saturation

Allows the user to adjust the camera’s image color saturation or color level.

Sharpness

Allows the user to adjust the camera's image sharpness.

Supports Digest Authentication

Specifies whether the camera supports Digest Authentication along with Basic Authentication.

Two-Way Audio

Specifies whether the camera can be used for bidirectional audio communications.

Video Standards

Specifies the standards (i.e. NTSC, PAL) supported by the camera.

Note: If cameras are added via the discovery tool in TruVision Navigator, the default for video standard setting is NTSC.

White Balance

Allows the user to adjust the camera's image white balance.

Adding Cameras to SVR

There are two ways to add IP Cameras to a TruVision SVR server:

- Adding manually
- Adding from the list of discovered devices

Add Cameras to an SVR Recorder with the Discovery Tool

Adding IP cameras from the device discovery list is a convenient way to assign single or multiple cameras to an SVR recorder.

1. Right-click on the SVR in TruVision Navigator device tree
2. Select [Add IP Cameras], and click [Add via Device Discovery]. The Device discovery window will appear.
3. Select the IP camera(s) to be added to the TruVision SVR and click [Add].

   Note: Only cameras supported by that recorder will be discovered. Also, cameras assigned to a recorder will not be shown in this list.

   Note: The Discovery Tool will attempt to add devices by using their default credentials. If the credentials of a device were previously changed from default values, the device is still going to be added to the device tree and

SVR, but will be shown as offline. In this case, updated credentials need to be applied manually by the user from the device properties or configuration menu with a right-click on the device.

Add Cameras to an SVR Recorder Manually

Adding IP cameras with the “Add Manually” option gives user the ability to assign cameras to SVRs in a traditional way.

Note: Cameras with a “+” sign refer to the alternate stream of the camera. For low bandwidth environments, these cameras may be added to the SVR instead of adding the primary stream.

1. Right-click on the SVR in TruVision Navigator device tree
2. Select [Add IP Cameras], and Click [Add Manually]. A new window will appear.
3. Fill the fields with the related IP camera information
4. Click [OK].

Chapter 6
Secure TruVision SVR Installation Checklist

This chapter describes the steps for making the TruVision SVR installation more secure. The intention of this chapter is not to cover general Windows security practices and guidelines, but to assist IT professionals in applying these practices and guidelines to Interlogix video products.

Limit Access to the Users Group

By default, TruVision SVR is installed with access granted to all clients. Access includes retrieval of video and the ability to modify the recorder configuration. Access can be limited by running LnrSetup and opening the Security tab.

Review Machine-Wide DCOM Security Settings

Default machine-wide limits should be adjusted to provide adequate security for the Windows installation. Each product in the Video Suite has different DCOM configurations based on the included components.

If access to TruVision SVR is limited to the LNRUsers group, then anonymous user and everyone entries do not have to be given access. Removing these entries from access permission limits and launch/activation limits will improve security. The LNRUsers group must be allowed to access and activate DCOM objects, but not launch them.

If access to the TruVision SVR is not limited to the LNRUsers group, anonymous user access can still be disabled. With this setting, only users that the system knows about will be able to authenticate. This could be problematic for installations that do not have a domain server. Therefore the recommendation is that if the TruVision SVR is secured with this method, then the TruVision SVR and all client machines should be part of a domain.

Chapter 7
Device Discovery and Management

For a list of currently supported cameras, visit: www.interlogix.com.

Device Discovery

The Device Discovery tool provides an easy way to discover the devices and make them ready for recording in the system. Device discovery tool is available via various paths in TruVision Navigator, and is used for discovering recorders, cameras, and encoders in the network.

Following is the path to discover and add cameras to SVR:

Adding Cameras to SVR

Note: The SVR does not have a discovery protocol embedded. Therefore, SVR won't be discovered when the network is searched.

- Select one or multiple cameras from the discovered devices list, and click [add].
- Right-click on an SVR in the device tree, click [Add IP Cameras], and select [Add via Device Discovery].

Device Management

Device Management tool provides various information and functions to ensure the ease of system setup and maintenance. To access to the device management interface, right-click [Devices] and select [Device Management].

The discovery tool window includes following areas and device management functions

- Device List
- Assigning IP Address to a device

- Pinging device(s)
- Rebooting device(s)
- Getting Firmware Version of device(s)
- Opening Web Page of a device
- Checking default credentials of device(s)

Device List

Provides a list of devices in the network. For convenience, devices can be grouped together by their type or brand. The list can also be sorted by one of the columns by keeping the selected groupings.

‘Connected To’ column provides the information on the recorder each camera is recording to.An empty field indicates that the camera is discovered in the network, but is not assigned to a recorder yet.

Device list also provides the following device information: Model Name, IP Address and Port, Subnet Mask, Firmware Version, MAC ID, and Serial Number.

In addition, the Status column provides the results of the Ping, Assigning IP Address, Get Firmware Version, and Reboot commands.

Assign IP Address

Allows the users to assign an IP address to a camera.

1. Select a camera from the device discovery list.
2. Click [Change IP Address].
3. Enter the [New IP Address] to the related field, and click [Ok].

Ping

Allows the users to ping device(s) to check the link activity. Status of the ping command is given in the Status field.

Reboot

Allows the user to remotely reboot device(s) with one click. Status of the reboot command is given in the “Status” field.

Opening Webpage of a Device

Allows the user to open the web browser menu of a device.

Checking Default Credentials of a Device

Allows the user to check if device credentials are changed from the default

Discovery Tool Feature Capability Matrix by Camera Model

The Device Discovery Tool currently supports the following functions for each manufacturer.

Device List	Discovery	Launch Device Website	Assign IP	Reboot	Ping	Check Default Password	Change Device Password
Interlogix	Y	Y	Y	Y	Y	Y	Y
Axis	Y	Y		Y	Y		
Sony	Y	Y		Y	Y		
Panasonic	Y	Y		Y	Y		
Arecont	Y	Y		Y	Y		
IQ in Vision	Y	Y		Y	Y		
Bosch	Y	Y		Y	Y		
Mobotix	Y	Y		Y	Y		
TruVision Encoders	Y	Y		Y	Y		
TruVision Recorders	Y	Y		Y	Y		

Chapter 8
Recovery Tool

The TruVision SVR Recovery Tool is used to restore system information that may have been lost as a result of upgrading from an earlier version of TruVision SVR to TruVision SVR 7.0.825 or from removing storage locations containing SVR files. Without this system information the video will not be viewable on a TruVision Navigator client until the recovery tool is run.

The recovery tool can be run while the TruVision SVR is either recording or not recording. If the TruVision SVR is still recording while the recovery tool is run, older video will not be accessible to TruVision Navigator and the recovery tool will take longer to finish then if the TruVision SVR is not recording.

Recover Video Files

IMPORTANT: Running the TruVision SVR Recovery Tool will cause services to stop and restart, which will cause video monitoring to stop for several minutes.

IMPORTANT: The TruVision SVR Recovery Tool must be run on each TruVision SVR where video will be viewed on TruVision Navigator.

IMPORTANT: If the TruVision SVR is heavily utilized the recovery tool may take a long time to execute.

1. Navigate to `C:/Program Files(x86)/Interlogix/TruVision SVR/` and run the LnrRecoveryConsole.
2. The tool will automatically detect the recorder on the TruVision SVR. Click [Start].
3. The tool will process the recorded videos in the TruVision SVR. If the TruVision SVR services are running the tool asks if it is okay to automatically stop and start the services as needed. Click [Yes] to continue the recovery process. The more video that needs to be recovered the longer the tool will take to run.
4. Optionally, you can schedule the specific day and time during the week that the tool will run.

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